

REMARKS/ARGUMENTS

Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks.

The pending claims 1-7 and 15-21 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Gallagher et al. (2008/0119187 A1) in view of Monin et al. (U.S. Publication No. 2002/0197984 A1). Applicants respectfully traverse.

In a non-limiting aspect, presently pending claims are directed to accomplish a handover of a mobile terminal from a public mobile network to an unlicensed access network. The nature of an unlicensed access network is that local base stations may vary in number, be arranged at widely spaced locations and may be added or removed frequently. One resultant problem in implementing the handover from the public mobile network to the unlicensed network is how to identify the target mini-cell for the handover to the elements of the public mobile network, without conducting a time consuming and costly configuration of these elements and frequent reconfiguration of these elements as the mini-cells are added and removed.

This problem is solved according to the present claims by assigning all mini-cells the same, common identifier associated with the access network controller. This minimizes the impact on the public mobile network by limiting the configuration to a single identifier. The task of identifying which of the

multiple mini-cells is the target for handover falls to the access network controller.

This is achieved by the access network controller assigning a handover reference to a handover request received from the core network and using the handover reference to identify the mini-cell when the handover reference is received from a mobile station. Communication is then enabled with this mobile station through the target mini-cell. *See e.g., disclosure, p.14, l.18 – p.16, l.27.* The combination of the assignment of a common identifier with the use of a handover reference to enable the identification of the target mini-cell allows an unlicensed access network to be integrated in a public mobile network in a manner that minimizes the impact on the existing network while ensuring seamless service for the user

Examiner contends that Gallagher teaches all features of independent claims 1, 15, 18 and 21 with the exception of the assignment of a common identifier to all mini-cells in which the common identifier is associated the access network controller. Examiner then contends that the common identifier feature is taught in Monin and that incorporating Monin into Gallagher is obvious. On the contrary, combination of Gallagher and Monin fails.

Referring to Fig. 2 of Gallagher, Examiner alleges that the indoor system server 24, indoor base station 18 and the subscriber device 12 are respectively equivalent to the claimed access network controller, an access point defining a mini-cell and the mobile terminal. Referring to Fig. 14 and paragraphs [0127]

and [0128], Examiner contends that Gallagher discloses the claimed features of the access network controller. Fig. 14 illustrates a sequence of signals to support a handover from a licensed system to an unlicensed system in the GSM context. *See [0094]*.

In particular, a mobile switching center (MSC) 26 transmits a HandoverRequest signal to the system server 24 (arrow or step 928), which is acknowledged with a HandoverRequestAck signal (step 930). In the Office Action, Examiner contends the HandoverRequestAck signal sent from the server 24 to the MSC 26 is equivalent to the claimed handover reference. Examiner then contends that steps 936, 940 and 942 in Fig. 14 are equivalent to the feature of the access network controller being adapted to setup the communication path between the mobile station and the core network when a message containing the handover reference is received from the mobile station.

Gallagher describes that the MSC 26 issues a handover command (step 936) which ultimately prompts the subscriber device 12 to switch the call to the unlicensed mode channel (step 940), and to notify the indoor system server 24 that handover is complete (step 942). *See [0128]*. In all of these steps, the indoor system server 24 is not involved at all other than to receive a message indicating that the handover is complete. Further, there is no indication that the subscriber device 12 even transmits the HandoverRequestAck to the server, which was originally transmitted from indoor system server 24 to the MSC 26. Therefore, contrary to Examiner's allegation, Gallagher does not teach or

suggest the access network controller being adapted to setup the communication path as claimed.

This is sufficient to distinguish the independent claims from Gallagher. But the following is also noted. In [0129], Gallagher describes a particular embodiment in the WLAN context in which “handover reference” is mentioned. In Fig. 17, the subscriber device 12 is here described as a mobile station 1200, the base station 18 is termed an access point 1202, the PSTN 20 is represented by an LE switch 1204 and a tandem switch 1206 which are two common PSTN components, and the system server 24 is referred to as an iSwitch 1208. Gallagher describes that when the iSwitch 1208 receives a handover request from the MSC 26, it selects and stores a handover reference with the target cell information. *Emphasis added; See [0132]*. In other words, the iSwitch 1208 has the information that identifies the target cell to which handover is requested at this stage already.

In contrast, the specific target cell to which handover is required is identified and located when a message is received from the mobile station via the target cell that contains the target reference. This possibility cannot occur in Gallagher as each access point is assigned its own identifier in the same as conventional cellular networks enabling the target cell to be made known to the iSwitch when handover is initially requested. In short, Gallagher teaches away. See *KSR v. Teleflex*, 550 US ___, 127 S.Ct. 1727 (2007) (“When the prior art

teaches away from combining certain know elements, discovery of successful means of combining them is more likely to be non-obvious.”)

Monin fails to correct the above-noted deficiencies of Gallagher. Monin is directed exclusively to access points within a WLAN and to handover between access points of the WLAN. As such, Monin provides no insights into the possible interactions between a licensed (public mobile) network and unlicensed (e.g., WLAN) network, and thus no teaching is of relevance to the system of Gallagher. Indeed, Monin touts in paragraph [0021] that flexible allocation of logical identities is particularly suited for small cells, i.e., WLANs. The transfer of logical identities from one access point to another as Monin teaches is not a feasible handover mechanism from a base station of a PLMN to the access point of an unlicensed access network. Thus, there is no motivation and indeed teaches one of ordinary skill away from an attempt to utilize the teaching of Monin in the system of Gallagher.

For at least the reasons stated above, claims 1-7 and 15-21 are distinguishable over the combination of Gallagher and Monin. Applicants respectfully request that the rejections of claims based on Gallagher and Monin be withdrawn.


All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Hyung Sohn

(Reg. No. 44,346), to conduct an interview in an effort to expedite prosecution in connection with the present application.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Respectfully submitted,

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